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United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

# Idaho Basin Outlook Report February 1, 1998





# Basin Outlook Reports

## and

## Federal - State - Private

## Cooperative Snow Surveys

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*For more water supply and resource management information, contact:*

**Your local Natural Resources Conservation Service Office**

**or**

**Natural Resources Conservation Service**

**Snow Surveys**

**3244 Elder Street, Room 124**

**Boise, ID 83705-4711**

**(208) 378-5740**

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### *How forecasts are made*

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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# *IDAHO WATER SUPPLY OUTLOOK REPORT*

*FEBRUARY 1, 1998*

## *SUMMARY*

Above normal precipitation in January improved snowpack levels across the state. Snowpacks are now in the 85-100% of average range across the southern two-thirds of the state and 75-80% in the Panhandle Region and Clearwater basins. Projected streamflows also increased and range from 70-105% of average. With many snow measuring stations reporting at least half of their April 1 water content amounts, the 1997-98 snow season is looking much better than when it started. With 40% of the snow season still to come, concerns about inadequate water supplies are fading as a result of the good reservoir carryover storage and near normal snow levels.

## *SNOWPACK*

What a difference a month makes! Snowpacks increased 20-40 percentage points across the southern half of the state and 5-20 percentage points in the northern half. January's snow water content increase for the Boise basin was the sixth greatest since 1961. Currently, the lowest snow water content levels in the state are in the Camas-Beaver Creeks and Fish Creek basins (68% of average); Little Wood, Little Lost, Big Lost, Panhandle and Clearwater basins (75-79% of average). Snowpack is near normal in the upper Snake, Bear River and Owyhee basins. Elsewhere, in southern and central Idaho, the snowpack is 85-95% of average. With just over half the snow season behind us, the Idaho snowpack is looking about "normal" for once; however, conditions can still change depending what Mother Nature and the effects of El Nino have in store for the remaining winter months.

## *PRECIPITATION*

January helped make up for the lack of precipitation in November and December! January precipitation ranged from near normal in the Clearwater basin to over 200% of average at some central and southern Idaho SNOTEL stations. Overall, January precipitation was 160% of average across southern Idaho; 145% across the middle of Idaho; and 120% in the Panhandle and Salmon basins. Precipitation for the water year is fairly consistent across the state ranging from 84-93% of average. The highest year to date amounts are in the Bear River basin and lowest in the high desert streams south of the Snake River. Average January temperature was the 2nd warmest in Boise (38.9 degrees Fahrenheit) and was the 4th warmest in Pocatello (33.1 degrees F.) since measurements started in 1940. Lewiston's average January temperature was 36.9 degrees F. which was 3.3 degrees above normal. However, January mountainous temperatures were cold enough to keep precipitation in the form of snow, unlike last year's rain which resulted in flooding around New Year's day. The extended February-April weather forecast provided by the National Weather Service predicts for below normal precipitation for southern Idaho and above normal temperatures across the state.



## **RESERVOIRS**

Good reservoir carryover storage will help overcome deficits in streamflow this year and provide an adequate water supply for water users. However, some natural streamflow or in-stream water users may experience below normal volumes this season. Reservoir storage in the Payette, Boise, Wood, upper Snake, and Bear Lake systems are 75-80% of capacity. These reservoirs along with Owyhee Reservoir are projected to fill and will provide an adequate water supply. Oakley and Salmon Falls reservoirs are 40-50% full and are not expected to fill, but they will provide adequate agricultural water supply for their users. Dworshak Reservoir is 62% full which is normal for this time of year and is expected to fill. Storage in the natural lakes of northern Idaho is about half of their summer capacity which is normal for this time of year.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive, and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

## **STREAMFLOW**

Streamflow forecasts across the southern half of Idaho increased 10-25 percentage points from last month. Projected streamflow forecasts call for 80-90% of average volumes in the Salmon, Clearwater, and Panhandle basins. The central Idaho streams are forecast at 75-100% of average with the exception of Magic Reservoir inflow which is forecast at 62% of average. The upper Snake River basin is forecast at near average. Basins across southern Idaho are forecast at 70-85% of average. January streamflow volumes were above normal in eastern Idaho, near normal in central and northern Idaho, and about half of normal in the Owyhee/Bruneau basins.

## **RECREATION**

January snowfall was 1-2 times normal and improved winter recreation activities across the state. Snow depths and water content levels more than doubled or tripled since January 1. Good reservoir carryover storage and smaller flood control requirements may allow reservoirs to fill earlier than normal, providing excellent and early reservoir recreational opportunities. All major reservoirs are expected to fill this year. Streamflow forecasts increased from last month and range from 70-100% of average for most Idaho streams. With just under half the snow season still to come, whitewater boating opportunities across the state are looking good; river runners can expect a shorter high water season and lower volumes than last year.

## **NEW ADDRESS CHANGE!!!**

Effective February 23, 1998, Natural Resources Conservation Service will be located at 9173 West Barnes Drive, Suite C, off of Maple Grove and Overland at the Black Eagle business complex. Our phone numbers will remain the same but our new address is noted below.

The Universal Resource Locator (URL) for our Internet home page will remain the same: <http://idsnow.id.nrcs.usda.gov>

Natural Resources Conservation Service  
Snow Survey Staff  
9173 West Barnes Drive, Suite C  
Boise, Idaho 83709  
Phone (208) 378-5740  
Email [snow@id.nrcs.usda.gov](mailto:snow@id.nrcs.usda.gov)

# IDAHO SURFACE WATER SUPPLY INDEX (SWSI)

*As of February 1, 1998*

The Surface Water Supply Index (SWSI) is predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

SWSI values are published January through May, and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

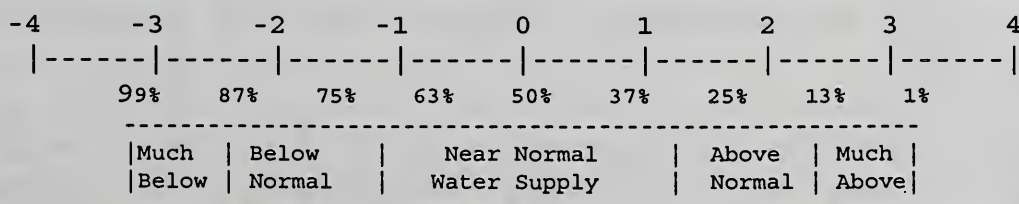
The following agencies and cooperators provide assistance to the Natural Resources Conservation Service in the preparation of the Surface Water Supply Index for Idaho:

US Department of Commerce, National Weather Service  
US Bureau of Reclamation  
Idaho Water Users Association

US Army Corps of Engineers  
Idaho Department of Water Resources  
PacifiCorp

<i>BASIN or REGION</i>	<i>SWSI Value</i>	<i>Recent Years With Similar SWSI Value</i>	<i>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</i>
PANHANDLE	-2.6	1980, 88	NA
CLEARWATER	1.8	1993	NA
SALMON	0.0	1980	NA
WEISER	-0.1	1986	NA
PAYETTE	0.3	1993	NA
BOISE	0.1	1993	-2.6
BIG WOOD	-0.7	1981, 85	-1.4
LITTLE WOOD	0.3	1985, 70	-2.1
BIG LOST	-0.8	1985, 93	-0.8
LITTLE LOST	-0.5	1990, 81	0.0
HENRYS FORK	1.0	1978	-3.3
SNAKE (AMERICAN FALLS)	1.4	1980	-2.0
OAKLEY	2.0	1985	0.0
SALMON FALLS	2.0	1982, 80	0.0
BRUNEAU	-1.3	1985, 73	NA
OWYHEE	-0.2	1990	NA
BEAR RIVER	-0.5	1987	-3.8

## SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply", represents three SWSI units and would be expected to occur about one third (36%) of the time.

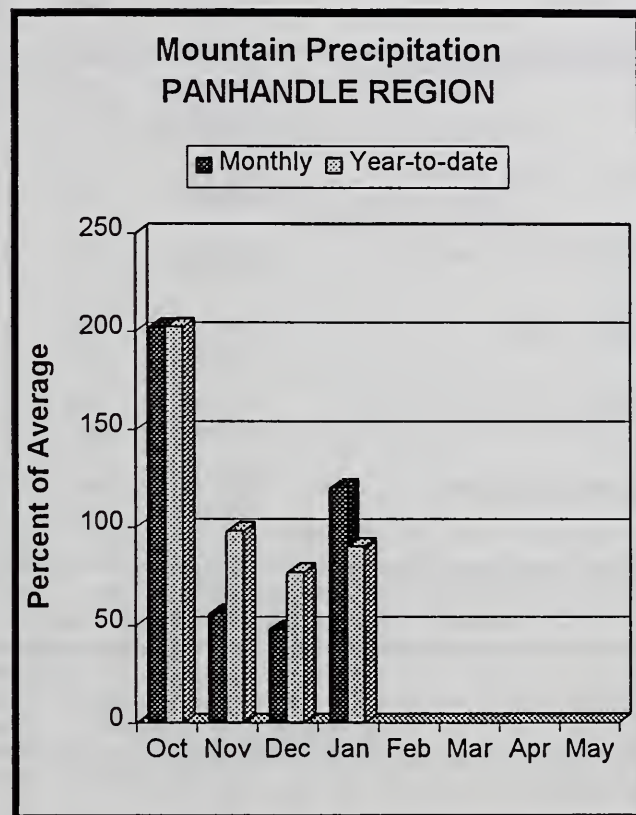
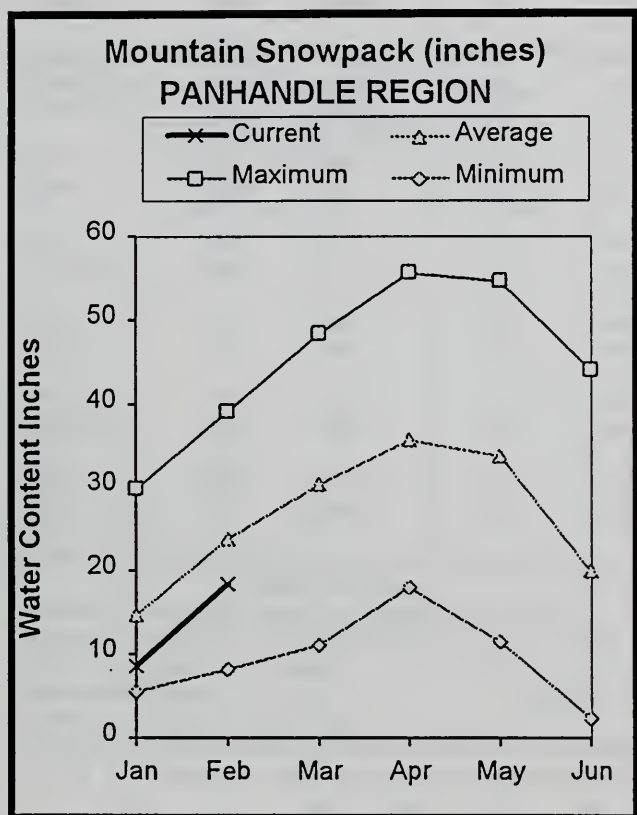
# I D A H O S N O W P A C K S U M M A R Y

FEBRUARY 1998

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
*****	*****	*****
PANHANDLE REGION		
Kootenai ab Bonners Ferry	57%	81%
Moyie River	61%	81%
Priest River	51%	90%
Pend Oreille River	50%	83%
Rathdrum Creek	61%	104%
Hayden Lake	0%	0%
Coeur d'Alene River	47%	74%
St. Joe River	44%	74%
Spokane River	51%	81%
Palouse River	52%	91%
CLEARWATER RIVER BASIN		
North Fork Clearwater	48%	78%
Lochsa River	53%	83%
Selway River	57%	90%
Clearwater Basin Total	50%	81%
SALMON RIVER BASIN		
Salmon River ab Salmon	45%	84%
Lemhi River	54%	87%
Middle Fork Salmon River	49%	85%
South Fork Salmon River	54%	91%
Little Salmon River	60%	92%
Salmon Basin Total	52%	88%
WEISER, PAYETTE, BOISE RIVER BASINS		
Mann Creek	77%	102%
Weiser River	69%	93%
North Fork Payette	62%	99%
South Fork Payette	54%	85%
Payette Basin Total	59%	95%
Middle & North Fork Boise	48%	92%
South Fork Boise River	51%	91%
Mores Creek	63%	114%
Boise Basin Total	56%	97%
Canyon Creek	82%	0%
BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
*****	*****	*****
WOOD AND LOST RIVER BASINS		
Big Wood ab Magic	41%	84%
Camas Creek	62%	86%
Big Wood Basin Total	45%	84%
Little Wood River	43%	79%
Fish Creek	45%	65%
Big Lost River	39%	79%
Little Lost River	44%	76%
UPPER SNAKE RIVER BASIN		
Birch-Medicine Lodge Creeks	47%	85%
Camas-Beaver Creeks	51%	70%
Henrys Fork-Falls River	51%	94%
Teton River	57%	103%
Snake above Jackson Lake	57%	103%
Gros Ventre River	56%	95%
Hoback River	50%	91%
Greys River	55%	93%
Salt River	61%	102%
Snake above Palisades	56%	101%
Willow Creek	57%	109%
Blackfoot River	57%	97%
Portneuf River	58%	113%
Snake abv American Falls Res	56%	103%
SOUTHSIDE SNAKE RIVER BASINS		
Raft River	48%	117%
Goose-Trapper Creeks	44%	96%
Salmon Falls Creek	49%	85%
Bruneau River	47%	85%
Owyhee Basin Total	58%	99%
BEAR RIVER BASIN		
Smiths & Thomas Forks	55%	103%
Bear River ab WY-ID line	53%	97%
Montpelier Creek	53%	92%
Mink Creek	53%	96%
Cub River	46%	122%
Bear River ab ID-UT line	53%	100%
Malad River	55%	136%



# PANHANDLE REGION FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

January's above normal precipitation improved snowpack conditions, but they still remain below normal. January precipitation was 120% of average. Below normal winter precipitation in this area is typical during El Nino years and is 90% of average for the water year. Currently, the Panhandle snowpacks are the lowest in the state and range from 74% of average in the Coeur d'Alene and St. Joe basins to 83% in the Kootenai River basin. Some low elevation snow measuring sites in the Priest River and Rathdrum Creek basins are reporting near average snow water content levels. Storage in Coeur d'Alene, Priest and Pend Oreille lakes is 40-55% of their normal summer levels which is common for this time of year. Streamflow forecasts call for below normal runoff and range from 78-83% of average which is also typical during El Nino years in this area. Of the past 9 El Nino years, summer streamflow for the St. Joe River has ranged from a low of 46% of average in 1973 to a high of 91% in 1978. Water users should be prepared for below normal volumes this season, but after the flooding from the past two years this may be a sign of relief.

PANHANDLE REGION  
Streamflow Forecasts - February 1, 1998

		<===== Drier ===== Future Conditions ===== Wetter =====>								
Forecast Point	Forecast Period	90% (1000AF)		70% (1000AF)		Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at										
Leonia (1,2)	APR-JUN	3650	4561	4975	87	5389	6300	5701		
	APR-JUL		4681	5815	6330	88	6845	7979	7199	
	APR-SEP		5383	6687	7280	88	7873	9177	8275	
CLARK FK at Whitehorse Rpds (1,2)	APR-JUN		4869	6885	7800	78	8715	10731	10050	
	APR-JUL		5742	8106	9180	78	10254	12618	11730	
	APR-SEP		6317	8919	10100	78	11281	13883	12910	
PEND OREILLE Lake Inflow (1,2)	APR-JUN		5392	7873	9000	79	10127	12608	11390	
	APR-JUL		6578	9206	10400	79	11594	14222	13150	
	APR-SEP		7120	9995	11300	79	12605	15480	14370	
PRIEST nr Priest River (1,2)	APR-JUL		432	620	705	87	790	978	814	
	APR-SEP		458	659	750	86	841	1042	868	
COEUR D'ALENE at Enaville	APR-JUL		435	554	635	83	716	835	770	
	APR-SEP		467	588	670	83	752	873	809	
ST.JOE at Calder	APR-JUL		685	823	916	78	1009	1147	1169	
	APR-SEP		741	883	979	79	1075	1217	1237	
SPOKANE near Post Falls (2)	APR-JUL		1400	1787	2050	78	2313	2700	2633	
	APR-SEP		1461	1853	2120	78	2387	2779	2730	
SPOKANE at Long Lake	APR-JUL		1635	2049	2330	79	2611	3025	2936	
	APR-SEP		1796	2224	2515	80	2806	3234	3159	

PANHANDLE REGION Reservoir Storage (1000 AF) - End of January					PANHANDLE REGION Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HUNGRY HORSE	3451.0	2468.0	1984.0	2362.0	Kootenai ab Bonners Ferry	23	58	83
FLATHEAD LAKE	1791.0	682.4	1124.0	1095.0	Moyie River	2	47	67
NOXON RAPIDS	335.0	285.7	307.9	314.2	Priest River	3	51	85
PEND OREILLE	1561.3	895.8	925.9	823.1	Pend Oreille River	73	50	82
COEUR D'ALENE	238.5	104.5	116.5	127.8	Rathdrum Creek	4	58	104
PRIEST LAKE	119.3	51.0	74.0	53.4	Hayden Lake	0	0	0
					Coeur d'Alene River	5	47	74
					St. Joe River	2	44	74
					Spokane River	11	50	81
					Palouse River	1	52	91

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

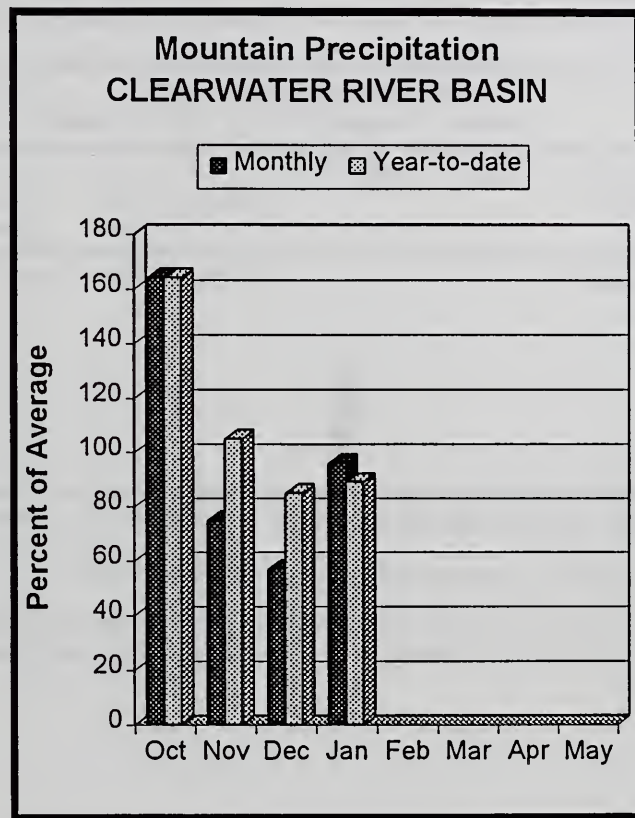
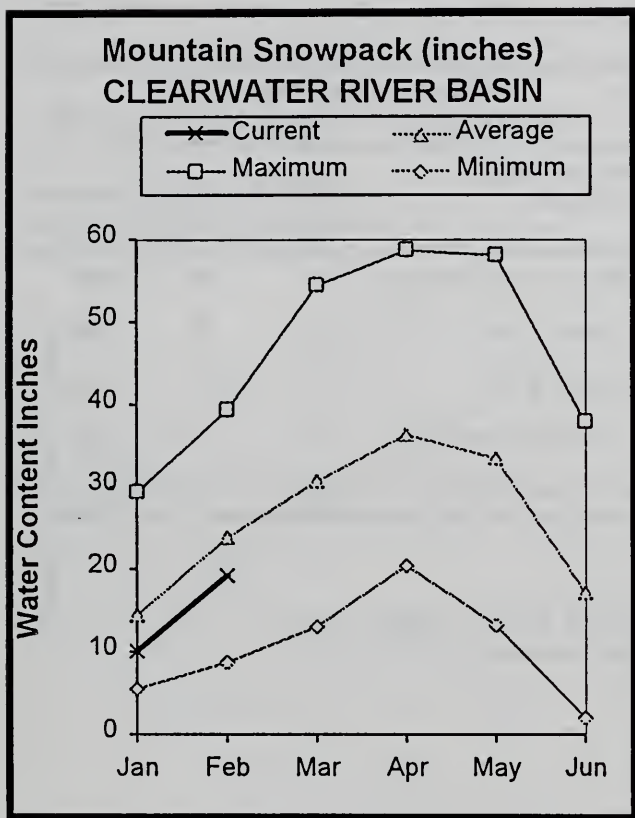
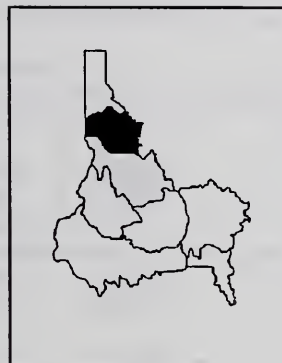
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.



# CLEARWATER RIVER BASIN

## FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

January precipitation was near average and is 89% for the water year. Snowpacks improved slightly and currently range from 78% of average in the North Fork Clearwater basin to 90% of average in the Selway River basin. Overall, the Clearwater River basin is below average at 81% of average which is typical during El Nino years. Dworshak Reservoir is 98% of average (62% of capacity) and will fill this season. Streamflow forecasts call for 85% of average inflow for Dworshak Reservoir. The Clearwater River at Spalding is forecast at 89% of average for the April-July period. Of the past 9 El Nino years, summer streamflow for the Clearwater River was above average only two years; the other 7 years ranged from 50-77% of average. Water users should be prepared for below normal volumes this season; however, water supplies should be adequate for water users and recreational opportunities this summer.

CLEARWATER RIVER BASIN  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
DWORKSHAK RESV INFLOW (1,2)	APR-JUL	1584	2076	2300	85	2524	3016	2692
	APR-SEP	1707	2218	2450	86	2682	3193	2866
CLEARWATER at Orofino (1)	APR-JUL	2469	3680	4230	90	4780	5991	4718
	APR-SEP	2600	3879	4460	90	5041	6320	4976
CLEARWATER at Spalding (1,2)	APR-JUL	3802	5850	6780	89	7710	9758	7618
	APR-SEP	4009	6176	7160	89	8144	10311	8052

CLEARWATER RIVER BASIN Reservoir Storage (1000 AF) - End of January					CLEARWATER RIVER BASIN Watershed Snowpack Analysis - February 1, 1998			
Usable Reservoir	*** Usable Storage ***	Capacity	This Year	Last Year	Number Avg	This Year as % of Watershed	of Data Sites	===== Last Yr Average =====
DWORKSHAK		3468.0	2144.5	2230.1	2198.2	North Fork Clearwater	11	48 78
						Lochsa River	4	53 83
						Selway River	5	57 90
						Clearwater Basin Total	18	50 81

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

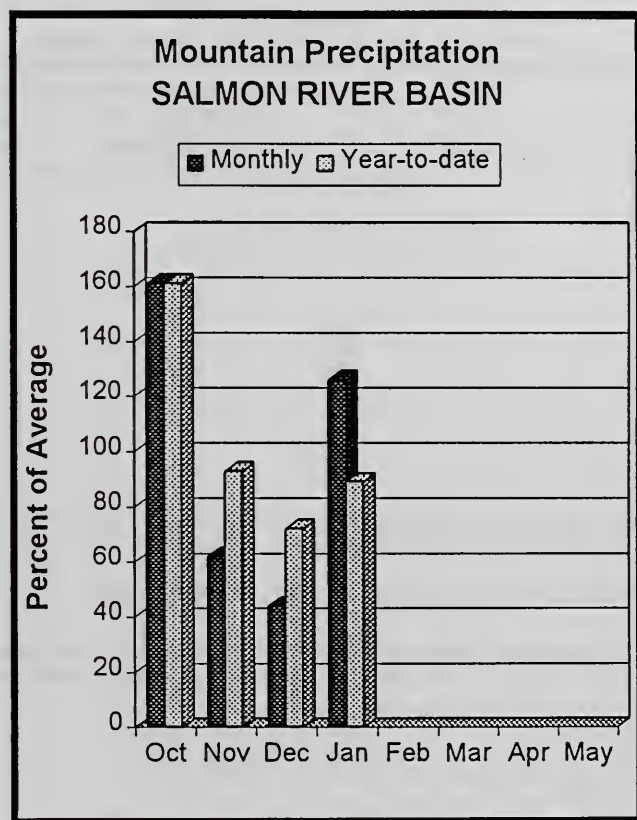
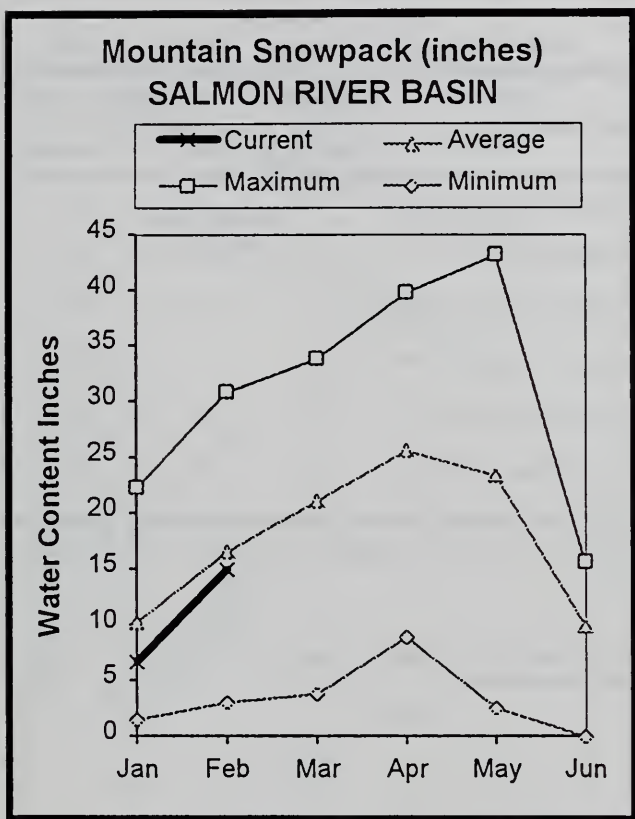
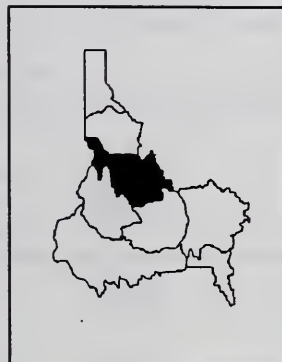
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
(2) - The value is natural flow - actual flow may be affected by upstream water management.



# SALMON RIVER BASIN

## FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

January precipitation ranged from 175% of average in the southern part of the Salmon basin to 100% in the northern part. Precipitation for the water year is 89% of average which is only about half of last year's precipitation at this time. Snowpack percentages increased 20-35 percentage points from last month and currently range from 84-92% of average across the Salmon basin and its tributaries. Streamflow forecasts call for 90% of average for the Salmon River above Salmon and 96% for Salmon River at White Bird. With just under half the snow season still to come, whitewater boating opportunities appear promising; river runners can expect a shorter high water season and much lower volumes than last year.

SALMON RIVER BASIN  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SALMON at Salmon (1)	APR-JUL	410	668	785	90	902	1160	869
	APR-SEP	480	783	920	90	1057	1360	1019
SALMON at White Bird (1)	APR-JUL	3682	5097	5740	96	6383	7798	5956
	APR-SEP	4079	5648	6360	96	7072	8641	6602

SALMON RIVER BASIN Reservoir Storage (1000 AF) - End of January					SALMON RIVER BASIN Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Salmon River ab Salmon	7	44	84
					Lenhi River	4	53	87
					Middle Fork Salmon River	3	49	85
					South Fork Salmon River	3	54	91
					Little Salmon River	4	60	92
					Salmon Basin Total	22	52	88

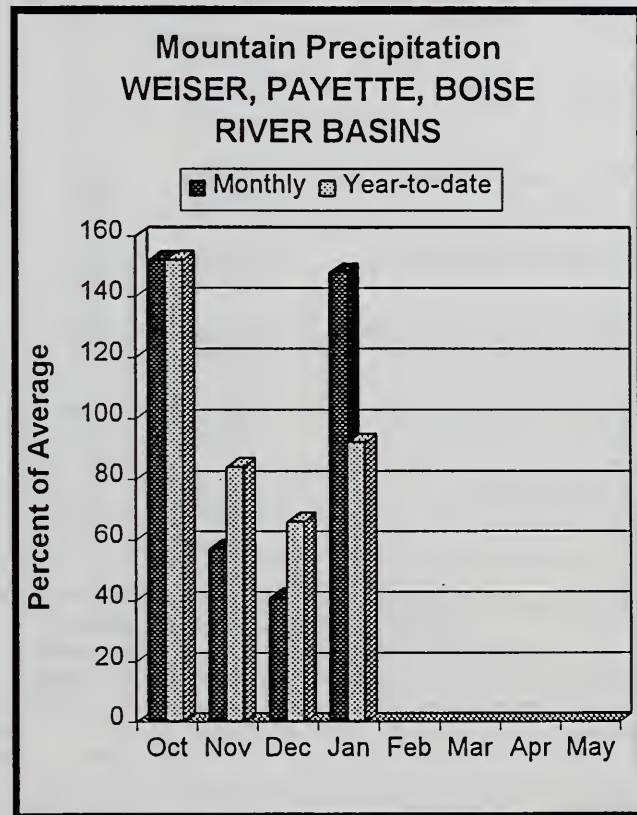
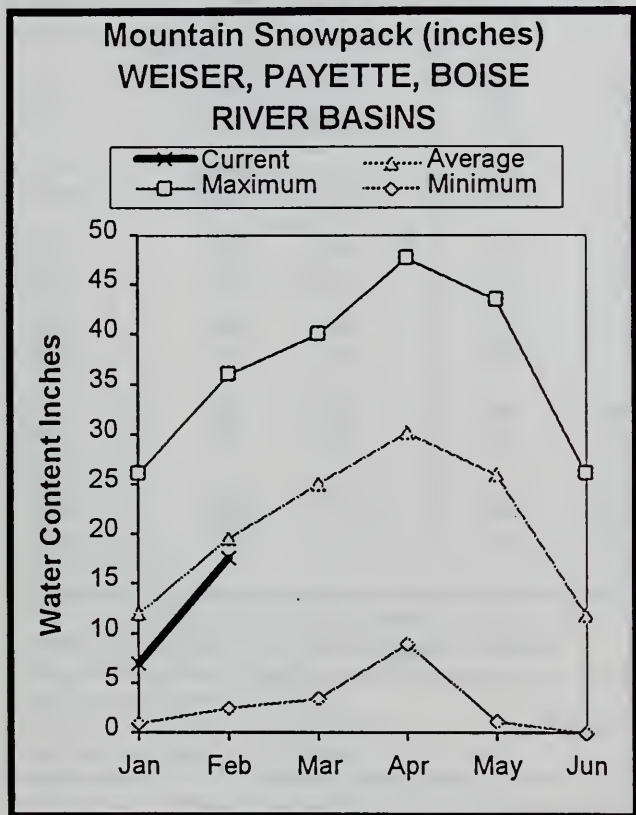
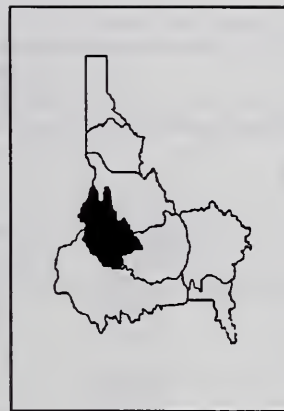
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
 (2) - The value is natural flow - actual flow may be affected by upstream water management.



# WEISER, PAYETTE, BOISE RIVER BASINS FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

Well above average precipitation in January increased the snowpack in the central Idaho mountains from *just over half of normal a month ago to just below normal on February 1*. January's increase was the sixth greatest since 1961, however, the increase was not near the record set in January 1970. January precipitation was 148% of average and is 92% for the water year. Snowpacks are 97% of average in the Boise basin, 95% in the Payette basin, and 93% in the Weiser basin. Reservoir storage remains well above average for this time of year and is 75% of capacity for the Boise system and 80% for the Payette system. Streamflow forecasts increased from last month and call for 90-100% of average for these west-central Idaho streams. With almost 60% of the average April 1 water content on the ground and less than half the winter still to come, the snowpack and water supply picture is looking pretty "normal". Water supplies should be adequate to meet the numerous and diverse agricultural and recreational water needs this summer.

year as a result of the good carryover storage.

WEISER, PAYETTE, BOISE RIVER BASINS  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						
		90%		Chance Of Exceeding *		30%		30-Yr Avg. (1000AF)
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WEISER nr Weiser (1)	APR-JUL	146	307	380	98	453	614	386
	APR-SEP	159	332	410	99	488	661	415
SF PAYETTE at Lowman	APR-JUL	312	372	413	96	454	514	432
	APR-SEP	360	425	469	96	513	578	488
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	98	124	135	100	146	172	135
	APR-SEP	103	130	142	99	154	181	143
NF PAYETTE nr Cascade (1,2)	APR-JUL	334	448	500	101	552	666	496
	APR-SEP	364	489	545	102	601	726	533
NF PAYETTE nr Banks (2)	APR-JUL	479	581	650	100	719	821	648
	APR-SEP	504	615	690	100	765	876	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1153	1474	1620	100	1766	2087	1618
	APR-SEP	1268	1620	1780	101	1940	2292	1755
BOISE near Twin Springs (1)	APR-JUL	415	532	585	93	638	755	631
	APR-SEP	438	566	624	91	682	810	686
SF BOISE at Anderson Rnch Dm (1,2)	APR-JUL	327	439	490	90	541	653	544
	APR-SEP	351	469	523	90	577	695	582
MORES CK nr Arrowrock Dam	APR-JUL	99	120	134	104	148	169	129
	APR-SEP	103	124	139	104	154	175	134
BOISE nr Boise (1,2)	APR-JUN	832	1051	1150	91	1249	1468	1264
	APR-JUL	891	1166	1290	91	1414	1689	1421
	APR-SEP	959	1249	1380	90	1511	1801	1535

WEISER, PAYETTE, BOISE RIVER BASINS Reservoir Storage (1000 AF) - End of January					WEISER, PAYETTE, BOISE RIVER BASINS Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MANN CREEK	11.1	2.7	7.4	5.4	Mann Creek	1	77	102
CASCADE	703.2	564.0	530.2	409.4	Weiser River	3	69	93
DEADWOOD	161.9	129.9	127.6	79.5	North Fork Payette	8	62	99
ANDERSON RANCH	464.2	431.8	387.3	300.6	South Fork Payette	4	50	85
ARROWROCK	286.6	229.2	206.1	223.9	Payette Basin Total	13	58	95
LUCKY PEAK	293.2	124.9	139.7	117.4	Middle & North Fork Boise	6	48	92
LAKE LOWELL (DEER FLAT)	177.1	115.4	105.8	131.0	South Fork Boise River	6	49	91
					Mores Creek	4	60	114
					Boise Basin Total	12	53	97
					Canyon Creek	0	0	0

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

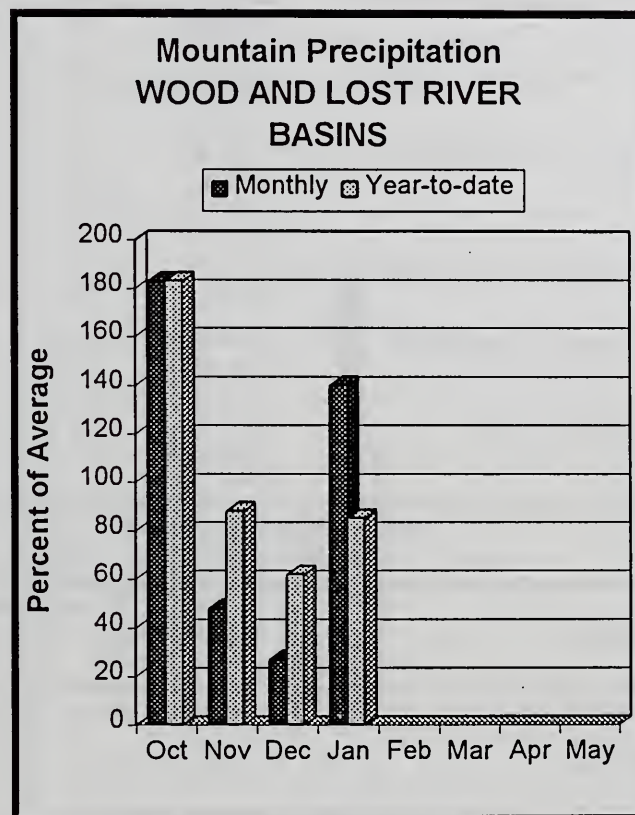
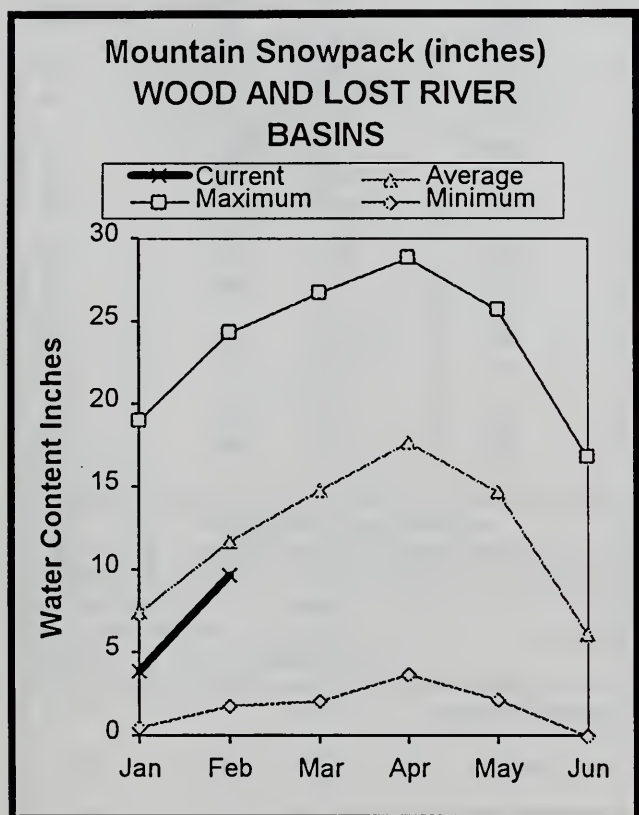
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(2) - The value is natural flow - actual flow may be affected by upstream water management.



# WOOD and LOST RIVER BASINS

## FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

Mother Nature brought just what the central Idaho mountains needed during January -- above normal snowfall. January mountainous precipitation was 140% of average. Precipitation for the water year is 85% of average. February 1 snow water content levels are double or triple the January 1 levels but are still below normal. Some of the lowest snowpack levels in the state are in the Fish Creek, Little Wood, Little Lost and Big Lost basins at 65-79% of average. The Big Wood and Camas Creek basins are slightly better at 85% of average. Magic and Little Wood reservoirs are each about 80% of capacity; Mackay Reservoir is 68% full. Streamflow forecasts improved from last month but still remain below average across the basin. Magic Reservoir inflow is forecast at 62% of average, Little Wood River is forecast at 80%; the Big and Little Lost rivers are forecast slightly higher at 85-90% of average. *The Surface Water Supply Index, which is a combination of reservoir storage and projected streamflow, indicates water supplies could be marginal in the Big Wood, Big Lost, and Little Lost basins if the 70 or 90 Percent Chance of Exceeding Forecasts occur.* With less than half the winter to come, conditions could still change depending what Mother Nature delivers in the remaining months. the next three months; conditions could change with over half the winter still to come.

WOOD AND LOST RIVER BASINS  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BIG WOOD at Hailey (1)	APR-JUL	97	161	190	75	219	283	255
	APR-SEP	115	184	215	74	246	315	289
BIG WOOD near Bellevue	APR-JUL	30	73	103	56	133	176	183
	APR-SEP	35	81	112	57	143	189	197
CAMAS CREEK near Blaine	APR-JUL	29	45	59	58	74	100	102
	APR-SEP	29	46	60	58	75	101	103
BIG WOOD below Magic Dam (2)	APR-JUL	91	146	183	62	220	275	295
	APR-SEP	98	154	193	62	232	288	310
LITTLE WOOD near Carey (2)	APR-JUL	39	60	75	82	90	111	92
	APR-SEP	41	64	79	80	94	117	99
BIG LOST at Howell Ranch	APR-JUN	82	105	120	85	135	158	141
	APR-JUL	95	130	154	85	178	213	181
	APR-SEP	113	152	179	87	206	245	206
BIG LOST below Mackay Reservoir (2)	APR-JUL	73	107	130	85	153	187	153
	APR-SEP	91	128	153	83	178	215	184
LITTLE LOST blw Wet Creek	APR-JUL	21	26	29	93	32	37	31
	APR-SEP	27	33	37	95	41	47	39
LITTLE LOST nr Howe	APR-JUL	24	28	31	93	33	37	33
	APR-SEP	31	37	40	93	44	49	43

WOOD AND LOST RIVER BASINS Reservoir Storage (1000 AF) - End of January					WOOD AND LOST RIVER BASINS Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MAGIC	191.5	152.3	121.1	92.8	Big Wood ab Magic	8	41	84
LITTLE WOOD	30.0	24.4	16.9	15.5	Camas Creek	2	52	86
MACKAY	44.4	30.0	16.9	30.0	Big Wood Basin Total	10	43	84
					Little Wood River	3	43	79
					Fish Creek	1	39	65
					Big Lost River	6	39	79
					Little Lost River	3	44	76

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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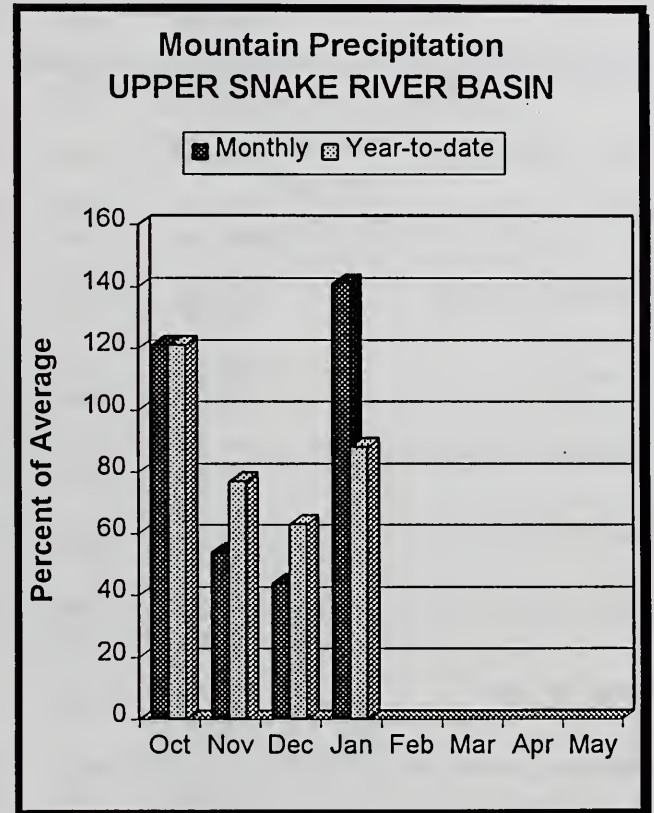
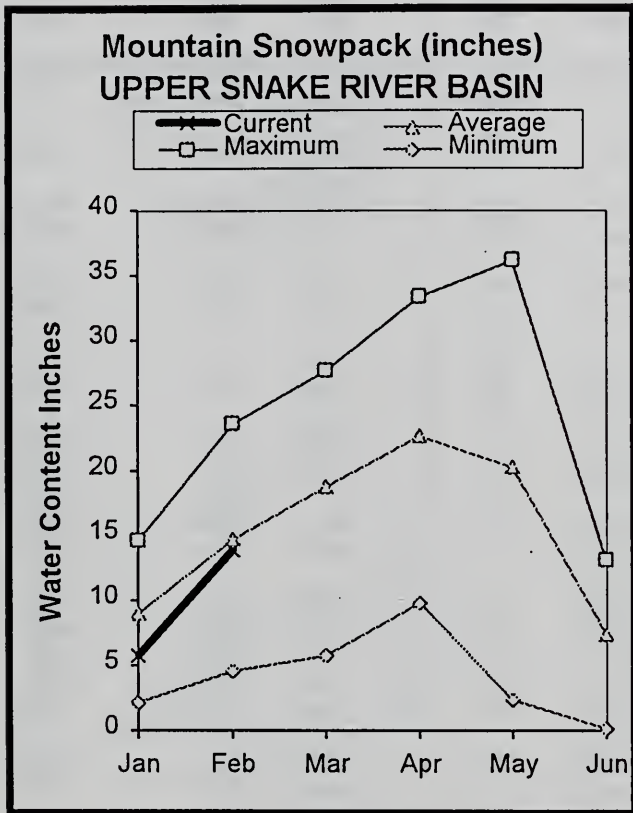
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# UPPER SNAKE RIVER BASIN

## FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

After two months of below normal precipitation, January precipitation was above normal at 141% of average. Precipitation for the water year is 88% of average. Snowpack percentages increased 20-30 percentage points from last month. Snowpacks are 94% of average in the Henrys Fork basin; 103% in the Teton basin; and 101% in the Snake River basin above Palisades Reservoir. One area of concern with a low snowpack (70% of average) is the Camas/Beaver creeks area north of Dubois. Overall, this year's snowpack is about 50-60% of last year's February 1 record snow levels. Combined reservoir storage in the 8 major upper Snake reservoirs is 120% of average, 82% of capacity. Streamflow forecasts call for near normal runoff and range from 90-105% of average. Agricultural water shortages are not anticipated for reservoir water users; however, unregulated streams or in-stream water users may experience below normal volumes especially in the Dubois area due to below normal snow water content levels.

UPPER SNAKE RIVER BASIN  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
HENRYS FORK near Ashton (2)	APR-JUL	474	527	563	104	599	652	544
	APR-SEP	619	682	725	99	768	831	730
HENRYS FORK near Rexburg (2)	APR-JUL	953	1118	1230	100	1342	1507	1228
	APR-SEP	1186	1373	1500	97	1627	1814	1551
FALLS near Squirrel (1,2)	APR-JUL	270	326	351	96	376	432	364
	APR-SEP	328	388	415	96	442	502	432
TETON near Driggs	APR-JUL	113	142	161	106	180	209	152
	APR-SEP	151	186	210	106	234	269	199
TETON near St. Anthony	APR-JUL	284	344	385	102	426	486	377
	APR-SEP	350	418	465	102	512	580	457
SNAKE near Moran (1,2)	APR-SEP	619	750	810	93	870	1001	869
SNAKE above Palisades (2)	APR-JUL	1750	1977	2132	92	2287	2514	2311
	APR-SEP	2029	2288	2464	92	2640	2899	2671
GREYS above Palisades	APR-JUL	222	269	300	90	331	378	333
	APR-SEP	269	320	355	92	390	441	388
SALT near Etna	APR-JUL	203	261	300	94	339	397	319
	APR-SEP	266	334	380	95	426	494	399
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	2178	2710	2952	92	3194	3726	3226
	APR-SEP	2599	3198	3470	92	3742	4341	3763
SNAKE near Heise (2)	APR-JUL	2516	2908	3175	92	3442	3834	3451
	APR-SEP	2979	3426	3730	92	4034	4481	4049
SNAKE nr Blackfoot (1,2)	APR-JUL	2946	3863	4280	96	4697	5614	4444
	APR-SEP	3783	4799	5260	96	5721	6737	5482
PORTNEUF at Topaz	MAR-JUL	71	82	89	104	96	107	86
	MAR-SEP	86	98	107	100	116	128	107
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	1401	2377	2820	92	3263	4239	3066
	APR-SEP	1402	2529	3040	92	3551	4678	3303

UPPER SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of January					UPPER SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HENRYS LAKE	90.4	89.5	88.3	78.7	Canas-Beaver Creeks	3	51	70
ISLAND PARK	135.2	112.7	121.3	100.7	Henrys Fork River	10	51	94
GRASSY LAKE	15.2	8.1	13.1	10.8	Teton River	8	57	103
JACKSON LAKE	847.0	655.9	691.6	479.6	Snake above Jackson Lake	12	57	103
PALISADES	1400.0	1284.2	1188.7	1043.6	Gros Ventre River	3	56	95
RIRIE	80.5	41.7	49.8	39.1	Hoback River	6	49	89
BLACKFOOT	348.7	273.5	283.7	235.8	Greys River	4	55	93
AMERICAN FALLS	1672.6	1298.9	1478.6	1141.5	Salt River	5	61	102
					Snake above Palisades	30	56	101
					Willow Creek	7	57	109
					Blackfoot River	4	57	97
					Portneuf River	4	58	114
					Snake abv American Falls	42	56	102

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

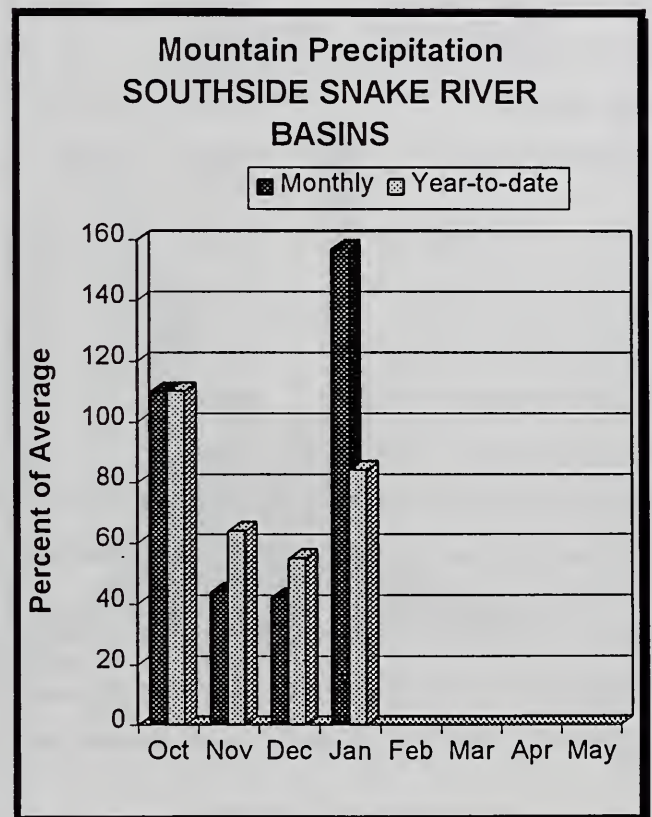
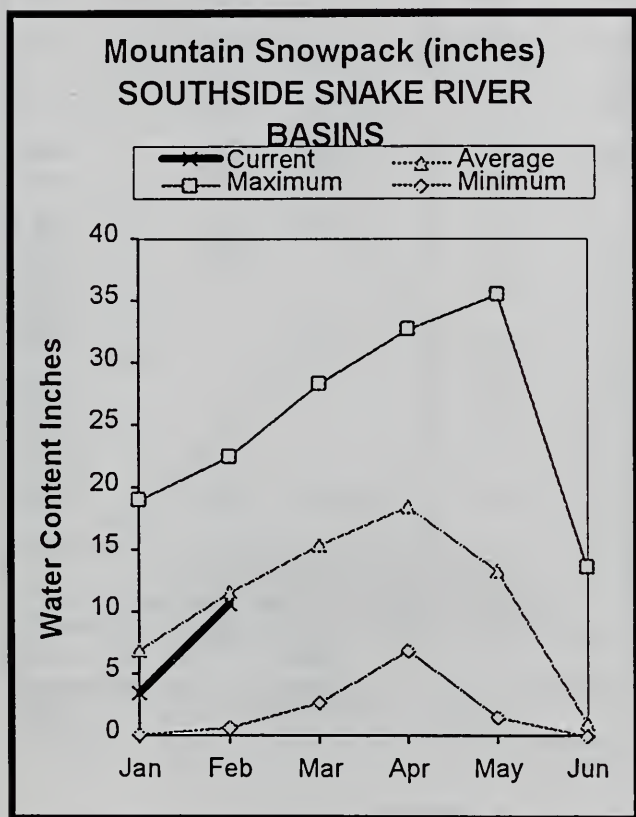
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# SOUTHSIDE SNAKE RIVER BASINS FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

January brought above normal precipitation across southern Idaho: 157% of average, the second highest in the state. Water year to date precipitation is 84% of average. The greatest snow water content increases were in the Owyhee basin where the snowpack increased from less than 50% of average to 99% of average. Elsewhere, the snowpack is 85% of average in the Bruneau and Salmon Falls basins, and 96% in the Oakley area. Reservoir storage is well above average in Oakley, Salmon Falls and Wildhorse reservoirs; Owyhee Reservoir storage is near normal. Streamflow forecasts call for runoff in the 70-85% range. The Surface Water Supply Index, which is a combination of reservoir storage and projected streamflow, indicates water supplies should be adequate in the Oakley and Salmon Falls basins even if the 90 Percent Chance of Exceeding Forecasts occur. In-stream water users of natural streamflows may experience below normal volumes. The whitewater boating season in these high desert streams looks promising, but additional moisture will help ensure and extend it.

SOUTHSIDE SNAKE RIVER BASINS  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions =====		Wetter =====>>		30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
OAKLEY RESV INFLOW	MAR-JUL	17.6	24	28	85	33	41	33
	MAR-SEP	20	27	32	89	38	47	36
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	38	53	65	75	78	100	86
	MAR-JUL	40	57	70	76	84	107	92
	MAR-SEP	43	60	73	76	87	111	96
BRUNEAU near Hot Springs	MAR-JUL	111	150	179	76	211	263	235
	MAR-SEP	119	159	190	77	224	278	246
OWYHEE near Gold Creek (2)	MAR-JUL	23	23	24	76	25	26	31
OWYHEE nr Owyhee (2)	APR-JUL	22	49	67	78	85	112	86
OWYHEE near Rome	FEB-JUL	247	346	423	68	508	646	622
OWYHEE RESV INFLOW (2)	FEB-JUL	269	376	460	70	552	702	656
	FEB-SEP	290	392	470	69	555	693	684
SUCCOR CK nr Jordan Valley	FEB-JUL	1.1	8.2	13.0	80	17.8	25	16.2
SNAKE RIVER at King Hill (1,2)	APR-JUL			2470	85			2896
SNAKE RIVER near Murphy (1,2)	APR-JUL			2560	86			2980
SNAKE RIVER at Weiser (1,2)	APR-JUL			4790	88			5465
SNAKE RIVER at Hells Canyon Dam (1,2)	APR-JUL			5300	87			6129
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	10385	16791	19700	91	22609	29015	21650

SOUTHSIDE SNAKE RIVER BASINS Reservoir Storage (1000 AF) - End of January					SOUTHSIDE SNAKE RIVER BASINS Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
OAKLEY	77.4	40.9	30.5	26.5	Raft River	1	48	117
SALMON FALLS	182.6	73.9	55.5	49.3	Goose-Trapper Creeks	2	44	96
WILDHORSE RESERVOIR	71.5	54.4	55.9	31.5	Salmon Falls Creek	5	49	85
OWYHEE	715.0	468.8	592.6	464.0	Bruneau River	8	47	85
BROWNLEE	1419.3	1294.9	1284.9	1109.4	Owyhee Basin Total	20	58	99

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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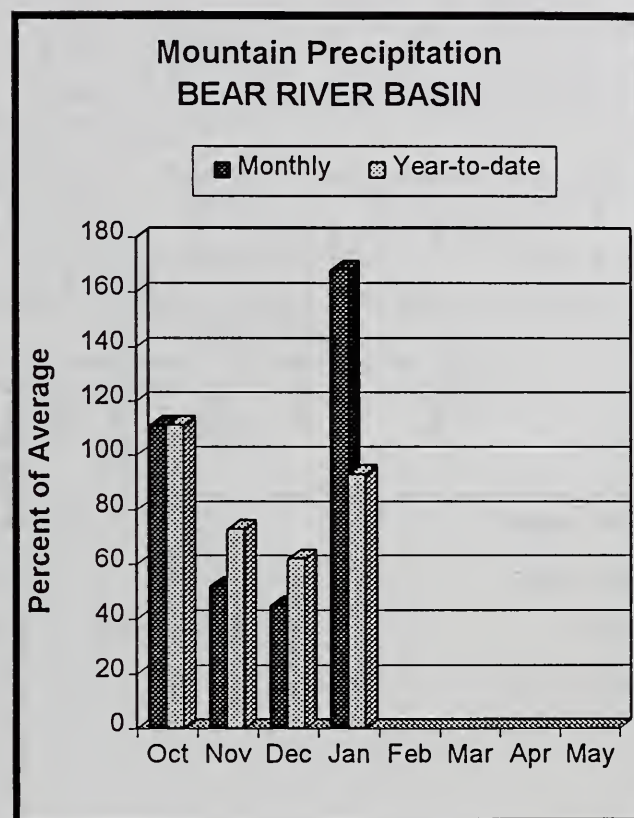
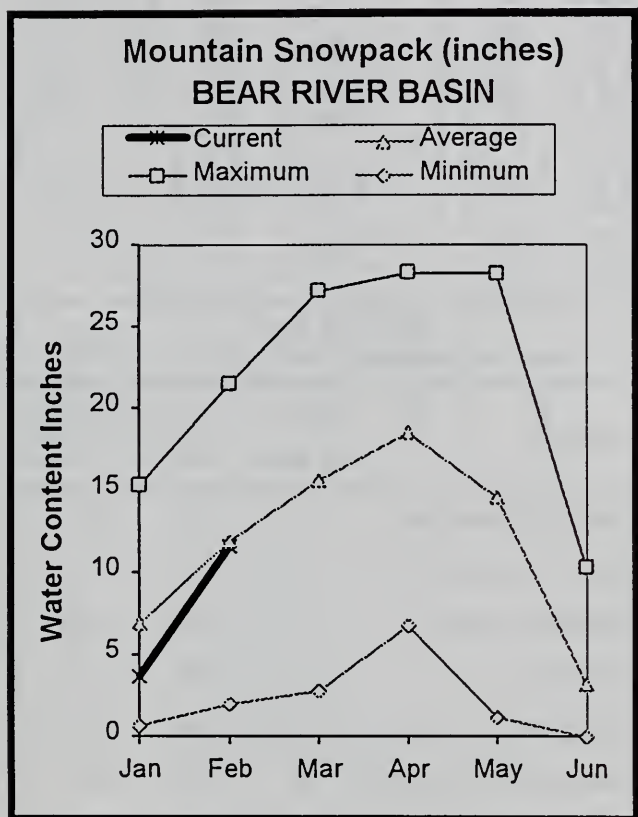
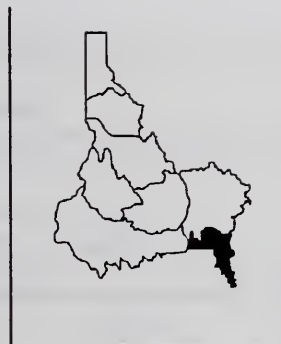
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# BEAR RIVER BASIN

## FEBRUARY 1, 1998



## WATER SUPPLY OUTLOOK

January precipitation was 168% of average, the highest in the state, and increased the snowpack to near normal conditions for February 1. Precipitation since the beginning of the water year is 93% of average. Many snow measuring stations more than doubled or tripled their January 1 snow water content levels. Snowpack percentages range from 122% of average in the Cub and Malad basins to 92% in Montpelier Creek basin. Bear Lake is storing 1,119,000 acre-feet which is 113% of average for this time of year. Montpelier Creek Reservoir is almost three quarters full and releasing some water. Streamflow forecasts call for 73% of average for the Bear River below Stewart Dam, 81% for Montpelier Creek, and 102% for Cub River. With about 60% of the average April 1 water content on the ground, and less than half the winter still to come, water supplies should be adequate for the diverse water users in these basins.

BEAR RIVER BASIN  
Streamflow Forecasts - February 1, 1998

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BEAR R nr Randolph, UT	APR-JUL	21	64	94	80	124	167	118
	APR-SEP	20	69	102	80	135	184	127
SMITHS FK nr Border, WY	APR-JUL	56	71	84	82	99	127	102
	APR-SEP	67	85	99	84	116	146	118
THOMAS FK nr WY-ID State Line	APR-JUL	13.3	19.3	25	76	32	47	33
	APR-SEP	14.6	21	27	75	35	50	36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	104	167	210	73	253	316	288
	APR-SEP	120	191	240	73	289	360	327
MONTPELIER CK nr Montpelier (2)	APR-JUL	6.3	8.2	9.9	81	11.9	15.7	12.2
	APR-SEP	7.5	9.5	11.2	79	13.2	16.8	14.2
CUB R nr Preston	APR-JUL	34	42	48	102	54	62	47

BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of January					BEAR RIVER BASIN Watershed Snowpack Analysis - February 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
WOODRUFF NARROWS	57.3	46.0	30.2	---	Smiths & Thomas Forks	3	55	103
WOODRUFF CREEK	4.0	4.0	3.0	---	Bear River ab WY-ID line	8	53	97
BEAR LAKE	1421.0	1118.9	929.5	987.6	Montpelier Creek	2	53	92
MONTPELIER CREEK	4.0	2.8	2.4	1.6	Mink Creek	1	53	96
					Cub River	1	46	122
					Bear River ab ID-UT line	15	53	100
					Malad River	1	55	136

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## Panhandle River Basins

-----  
 KOOTENAI R AT LEONIA, ID  
 + LAKE KOOCANUSA (STORAGE CHANGE)  
 CLARK FORK AT WHITEHORSE RAPIDS, ID  
 + HUNGRY HORSE (STORAGE CHANGE)  
 + FLATHEAD LAKE (STORAGE CHANGE)  
 + NOXON RAPIDS RESV (STORAGE CHANGE)  
 PEND OREILLE LAKE INFLOW, ID  
 + PEND OREILLE R AT NEWPORT, WA  
 + HUNGRY HORSE (STORAGE CHANGE)  
 + FLATHEAD LAKE (STORAGE CHANGE)  
 + NOXON RAPIDS (STORAGE CHANGE)  
 + PEND OREILLE LAKE (STORAGE CHANGE)  
 PRIEST R NR PRIEST R, ID  
 + PRIEST LAKE (STORAGE CHANGE)  
 COEUR D'ALENE R AT ENAVILLE, ID - No Corrections  
 ST. JOE R AT CALDER, ID - No Corrections  
 SPOKANE R NR POST FALLS, ID  
 + COEUR D'ALENE LAKE (STORAGE CHANGE)  
 + RATHDRUM PRAIRIE CANAL AT HEUTTER, ID  
 Clearwater River Basin  
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DWORSHAK RESERVOIR INFLOW, ID  
 + DWORSHAK RESV (STORAGE CHANGE)  
 - CLEARWATER R AT OROFINO, ID  
 + CLEARWATER R NR PECK, ID  
 CLEARWATER R AT OROFINO, ID - No Corrections  
 CLEARWATER R AT SPALDING, ID  
 + DWORSHAK RESV (STORAGE CHANGE)  
 Salmon River Basin  
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SALMON R AT SALMON, ID - No Corrections  
 SALMON R AT WHITE BIRD, ID - No Corrections  
 Weiser, Payette, Boise River Basins  
 -----  
 WEISER R NR WEISER, ID - No Corrections  
 SF PAYETTE R AT LOWMAN, ID - No Corrections  
 DEADWOOD RESERVOIR INFLOW, ID  
 + DEADWOOD R BLW DEADWOOD RESV NR LOWMAN  
 + DEADWOOD RESV (STORAGE CHANGE)  
 NF PAYETTE R AT CASCADE, ID  
 + CASCADE RESV (STORAGE CHANGE)  
 NF PAYETTE R NR BANKS, ID  
 + CASCADE RESV (STORAGE CHANGE)  
 PAYETTE R NR HORSESHOE BEND, ID  
 + DEADWOOD RESV (STORAGE CHANGE)  
 + CASCADE RESV (STORAGE CHANGE)  
 SF BOISE R AT ANDERSON RANCH DAM, ID  
 + ANDERSON RANCH RESV (STORAGE CHANGE)  
 BOISE R NR BOISE, ID  
 + ANDERSON RANCH RESV (STORAGE CHANGE)  
 + ARROWROCK RESV (STORAGE CHANGE)  
 + LUCKY PEAK RESV (STORAGE CHANGE)

## Wood and Lost River Basins

-----  
 BIG WOOD R AT HAILEY, ID - No Corrections  
 BIG WOOD R NR BELLEVUE, ID - No Corrections  
 BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID  
 + MAGIC RESV (STORAGE CHANGE)  
 LITTLE WOOD R NR CAREY, ID  
 + LITTLE WOOD RESV (STORAGE CHANGE)  
 BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections  
 BIG LOST R BLW MACKAY RESV NR MACKAY, ID  
 + MACKAY RESV (STORAGE CHANGE)  
 LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections  
 LITTLE LOST R NR HOWE, ID (Disc) - No Corrections  
 LITTLE LOST R NR HOWE, ID (Disc) - No Corrections  
 Upper Snake River Basin  
 -----  
 HENRYS FORK NR ASHTON, ID  
 + HENRYS LAKE (STORAGE CHANGE)  
 + ISLAND PARK RESV (STORAGE CHANGE)  
 HENRYS FORK NR REXBURG, ID  
 + HENRYS LAKE (STORAGE CHANGE)  
 + ISLAND PARK RESV (STORAGE CHANGE)  
 + DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID  
 + DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID  
 + GRASSY LAKE (STORAGE CHANGE)  
 FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID  
 + GRASSY LAKE (STORAGE CHANGE)  
 TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections  
 TETON R NR ST. ANTHONY, ID  
 - CROSS CUT CANAL  
 - SUM OF DIVERSIONS ABV GAGE  
 SNAKE R NR MORAN, WY  
 + JACKSON LAKE (STORAGE CHANGE)  
 PALISADES RESERVOIR INFLOW, ID  
 + SNAKE R NR IRWIN, ID  
 + JACKSON LAKE (STORAGE CHANGE)  
 + PALISADES RESV (STORAGE CHANGE)  
 SNAKE R NR HEISE, ID  
 + JACKSON LAKE (STORAGE CHANGE)  
 + PALISADES RESV (STORAGE CHANGE)  
 SNAKE R NR BLACKFOOT, ID  
 + PALISADES RESV (STORAGE CHANGE)  
 + JACKSON LAKE (STORAGE CHANGE)  
 + DIV FM SNAKE R BTW HEISE AND SHELLY GAGES  
 + DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID  
 PORTNEUF R AT TOPAZ, ID - No Corrections  
 AMERICAN FALLS RESERVOIR INFLOW, ID  
 + ALL CORRECT MADE FOR HENRYS FK NR REXBURG, ID  
 + JACKSON LAKE (STORAGE CHANGE)  
 + PALISADES RESV (STORAGE CHANGE)  
 + DIV FM SNAKE R BTW HEISE AND SHELLY GAGES  
 + DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

# Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID  
 + GOOSE CK ABV TRAPPER CK NR OAKLEY, ID  
 + TRAPPER CK NR OAKLEY, ID  
 SALMON FALLS CK NR SAN JACINTO, NV - No Corrections  
 BRUNEAU R NR HOT SPRINGS, ID - No Corrections  
 OWYHEE R NR GOLD CK, NV  
 + WILDHORSE RESV (STORAGE CHANGE)  
 OWYHEE R NR OWYHEE, NV  
 + WILDHORSE RESV (STORAGE CHANGE)  
 OWYHEE R NR ROME, OR  
 + WILDHORSE RESV (STORAGE CHANGE)  
 + JORDAN VALLEY RESV (STORAGE CHANGE)  
 OWYHEE RESERVOIR INFLOW, OR  
 + OWYHEE R BLW OWYHEE DAM, OR  
 + OWYHEE RESV (STORAGE CHANGE)  
 + DIV TO NORTH AND SOUTH CANALS  
 SUCCOR CK NR JORDAN VALLEY, OR - No Corrections  
 SNAKE R - KING HILL, ID - No Corrections  
 SNAKE R NR MURPHY, ID - No Corrections  
 SNAKE R AT WEISER, ID - No Corrections  
 SNAKE R AT HELLS CANYON DAM, ID  
 + BROWNLEE RESV (STORAGE CHANGE)  
 Bear River Basin  
 BEAR R NR RANDOLPH, UT  
 + SULPHUR CK RESV (STORAGE CHANGE)  
 + CHAPMAN CANAL DIVERSION  
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)  
 SMITHS FORK NR BORDER, WY - No Corrections  
 THOMAS FORK NR WY-ID STATELINE - No Corrections  
 BEAR R AT HARER, ID (Disc.)  
 + SULPHUR CK RESV (STORAGE CHANGE)  
 + CHAPMAN CANAL DIVERSION  
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)  
 BEAR R BLW STEWART DAM, ID  
 + SULPHUR CK RESV (STORAGE CHANGE)  
 + CHAPMAN CANAL DIVERSION  
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)  
 + DINGLE INLET CANAL  
 + RAINBOW INLET CANAL  
 MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID  
 + MONTPELIER CK RESV (STORAGE CHANGE)  
 CUB R NR PRESTON, ID - No Corrections

# RESERVOIR CAPACITY DEFINITIONS

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. The table below lists these volumes for each reservoir in this report, and defines the storage volumes that NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage.

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS FIGURES INCLUDE
<b>PANHANDLE REGION</b>						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1791.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
<b>CLEARWATER BASIN</b>						
DWORSHAK	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
<b>WEISER/BOISE/PAYETTE BASINS</b>						
MAIN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	50.00	653.20	--	703.2	INACTIVE+ACTIVE
DEADWOOD	1.50	--	161.90	--	161.9	ACTIVE
ANDERSON RANCH	29.00	41.00	423.18	--	464.2	INACTIVE+ACTIVE
ARROWROCK	--	--	286.60	--	286.6	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
LAKE LOWELL	--	8.00	169.10	--	177.1	INACTIVE+ACTIVE
<b>WOOD/LOST BASINS</b>						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
<b>UPPER SNAKE BASIN</b>						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
<b>SOUTHSIDE SNAKE BASINS</b>						
OAKLEY	--	--	77.40	--	77.4	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
<b>BEAR RIVER BASIN</b>						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD+ACTIVE



# Interpreting Streamflow Forecasts

## Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflows are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

**Most Probable (50 Percent Chance of Exceeding) Forecast.** This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast: it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

## To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

**70 Percent Chance of Exceeding Forecast.** There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

**90 Percent Chance of Exceeding Forecast.** There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

## To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

**30 Percent Chance of Exceeding Forecast.** There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

**10 Percent Chance of Exceeding Forecast.** There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

## Using the forecasts - an example

**Using the Most Probable Forecast.** Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River newa Deeth between March 1 and July 31.

**Using the Higher Exceedance Forecasts.** If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

**Using the Lower Exceedance Forecasts.** If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

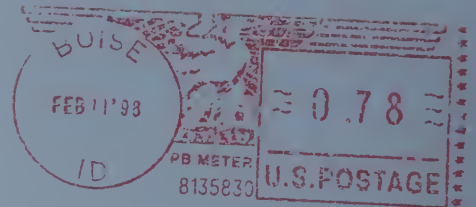
In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN									
FORECAST POINT	FORECAST PERIOD	STREAMFLOW FORECASTS							
		DRIER.....FUTURE CONDITIONS.....WETTER.....				Chance of Exceeding			
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)	25 YR (1000AF)		
MARY'S RIVER nr Deeth	MAR-JUL	5.0	20.0	36	77	52	76	47	
	APR-JUL	8.0	17.0	31	74	45	67	42	
LAMOILLE CREEK nr Lamolle	MAR-JUL	6.0	16.0	24	79	32	43	31	
	APR-JUL	4.0	15.0	22	75	30	41	30	
NR HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59	

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts".



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